

TOWARDS A CONCEPTUAL UNDERSTANDING OF ENTREPRENEURIAL PEDAGOGY

Until recently the conceptualizations of entrepreneurial learning have been dominated by economics-based thinking and thus neglected person while emphasizing the substance. Consequently pedagogical issues have not been the focal point when planning and conducting entrepreneurial training. However, if we assume that we are able to influence the entrepreneurial identification process by entrepreneurial training, as Rae (2005) and Hägg (2011) suggest, or believe that the teaching practices have impact on students' learning outcomes, as Anderson and Jack (2008) and Bécharde and Grégoire (2005) propose, it means that as entrepreneurship educators we have to analytically consider the reasons and perceptions behind our pedagogical choices. As entrepreneurship educators we have also found in practice that the process of learning entrepreneurship is dependent on the applied pedagogy (See Peltonen 2006, 2008; Hägg 2011).

Gradually in entrepreneurship education we are becoming more conscious of questions of pedagogy. However, the concept of entrepreneurial pedagogy is still vague and needs to be clarified. In this paper we continue recent theoretical discussions of entrepreneurial pedagogy by elaborating how we understand entrepreneurial pedagogy as a concept and propose a model indicating the underpinning philosophical commitments of this concept. With this paper we wish to theoretically contribute to entrepreneurship education research as well as to provide practical contribution by offering some guidelines how to carry out entrepreneurial training practices.

Keywords: entrepreneurship, pedagogy, entrepreneurial learning, teaching practices

Introduction

A dominant economics-based thinking on entrepreneurship as small business ownership and management has formed a norm for entrepreneurship (Rae 2005). While this view has primarily focused to a firm level analysis (Brush & al., 2008; Davidsson & Wiklund, 2001), it has not given much attention to individual learning perspective of entrepreneurship (Cope 2005). This tendency is somewhat puzzling considering that it is widely accepted that learning is a vital part of entrepreneurship (Cope, 2005; Rae & Carswell, 2001; Minniti & Bygrave, 2001). However, as Cope 2005 presents, this is a result from the lack of sufficient conceptual frameworks to explain entrepreneurial learning.

In entrepreneurship education research entrepreneurship is seen as a behavioral and societal phenomenon that takes place through experiential learning in different contexts. Consequently, a view of entrepreneurship as a learnable and teachable issue is commonly accepted among the scholars (Carrier, 2005; Koiranen & Ruohotie, 2001) and thus, as Carrier (2005) neatly presents, *"the relevant question of entrepreneurship education is what should be taught and how it should be taught"*? Accordingly the issues of entrepreneurial learning, teaching and pedagogy have attracted more interest in the leading scholarly journals during the recent years and the focus of research has shifted from content questions to the issues of entrepreneurial learning processes (Pittaway & Cope, 2007). As a result it is suggested that entrepreneurship education should be based on a more creative, innovative pedagogical approaches than traditionally applied when

teaching entrepreneurship (Gibb, 2001; Jones & Iredale, 2010). As entrepreneurship educators we have also found in practice that the process of learning entrepreneurship is dependent on the applied pedagogy. Yet paradoxically, as previous studies have indicated (e.g. Bécharde & Toulouse 1991; Solomon, Duffy & Tarabishy, 2002), conventional teaching methods still seem to be widely applied in entrepreneurship education.

If we assume that we are able to influence the entrepreneurial identification process by entrepreneurial training, as Rae (2005) and Hägg (2011) suggest, or believe that the teaching practices have impact on students' learning outcomes, as Anderson and Jack (2008) and Bécharde and Grégoire (2005) propose, it means that as entrepreneurship educators we have to analytically consider the reasons and perceptions behind our pedagogical choices. The importance of such pedagogical thinking as a necessary condition for development of teaching is largely acknowledged in the field of educational science and particularly in teacher education (e.g. Kansanen & al., 2000; Maaranen et al., 2008). We suggest here that this aspect should be taken more profoundly into consideration also in entrepreneurship education.

When training teachers we have also noticed in practice that teaching new methods is not enough (See Akola & Heinonen 2007; Hägg 2011), but deeper insights about entrepreneurial pedagogy and the underpinning learning theories are equally needed. Hence we argue here that one of the reasons for keeping up with conventional teaching methods might be that we still face some conceptual haziness when discussing about entrepreneurial learning and pedagogy, such as how to conceptualize entrepreneurial pedagogy?

These issues are deeply linked with how we understand the purpose of entrepreneurship education, the nature of entrepreneurial learning process and the concept of pedagogy. Therefore, we suggest that an increased dialogue between entrepreneurship and education is needed. Not only would this dialogue enhance theoretical discussion on entrepreneurship pedagogy, but clarifying this concept may help the practitioners, i.e. entrepreneurship educators to reflect and renew their teaching practices. Hence, the aim of this paper is to take this challenge. However, this paper does not seek to offer a definite conceptualization of entrepreneurial learning or pedagogy, but aspire to deepen understanding of these issues. We will first elaborate on recent theoretical discussion on entrepreneurial learning and pedagogy and propose a conceptual model of entrepreneurial pedagogy and its basic features and then by analyzing two cases (pedagogical applications), both applying entrepreneurial pedagogy, from different educational contexts we offer basic guidelines for carrying out entrepreneurial teaching and training practices.

The foundations, nature and objects of entrepreneurial learning

Many radical changes in society have created space for entrepreneurship. Thus the education system has been interested in investing in entrepreneurship education by organizing a wide range of entrepreneurial programs. However, as discussed earlier the dominant perspective towards entrepreneurship has focused on understanding entrepreneurial activity on a firm level. Thus learning perspective has not been in a centre of research interest in entrepreneurship. Furthermore, when learning issues have been

addressed, the object of learning has been on gaining knowledge and skill needed in venture creation (Charney & Libecap, 2000), small business management (Adcroft et al., 2004; Politis, 2005), internationalization (Deakins & Wyper, 2010) and portfolio entrepreneurship (Huovinen & Tihula, 2008). Although these learning objects are significant in a different phases of entrepreneurship, this approach to entrepreneurial learning reconstructs a narrow image of entrepreneurship solely as business ownership and management.

As we see it, the object of entrepreneurial learning is not just learning about and for entrepreneurship, but foremost learning through entrepreneurship in an entrepreneurial learning environment (Kyrö & Ripatti, 2006). Thus, the aim of entrepreneurship education is not only to educate potential future entrepreneurs, but foremost to foster entrepreneurial mindset and behavior of all participants within and outside business context. However, even in business context acquiring specific knowledge about industry, technology, products and markets is not enough because also general knowledge about “how to be entrepreneurial” is needed (Minniti & Bygrave, 2001). In the same vein Koiranen and Ruohotie (2001) stress that apart from knowledge and skills needed in entrepreneurship, equal emphasis should be put on fostering positive attitude and motivation towards entrepreneurship.

Previous researches (e.g. Mansio 1998; Leskinen, 1999; Ristimäki 2004; Pihkala 2008), have also indicated that students interest towards entrepreneurship will not necessarily increase even though these “fundamentals” are learnt during the studies. The problem with this approach is that entrepreneurship is thus seen as a separate and fragmented content area and as a result transferring the learned issues into practice can be difficult. In the same vein Sherman et al. (2008), argue that *“the fundamentals can be taught, but the individual will not really know what it’s like to swim until the person dives into the pool and begins to swim.”*

Thus, instead of separating entrepreneurship and learning, we support the argument presented by Minniti and Bygrave (2001) that *“entrepreneurship is a process of learning and a theory of entrepreneurship requires a theory of learning”*. Hence, we suggest that the conceptualization of entrepreneurial learning should take stand on four aspects; 1) the fundamental epistemological, ontological, axiological assumptions, 2) the nature of entrepreneurial learning and pedagogy, 3) the object of entrepreneurial learning and 4) learning and teaching practices and environments. Hence, when discussing about entrepreneurial learning we can basically identify different levels of discussion, which we have illustrated in the following tree-model (figure 1). In this model the roots of the tree represents the epistemological, ontological and axiological commitments, the base of the tree signifies the essence of entrepreneurship, while the trunk of the tree stands for the basic ideas of entrepreneurial learning and pedagogy, whereas the branches represents different objects of learning which in turn leads to leaves which symbolizes different learning and teaching methods. We have found this illustration very useful when training teachers, because it clarifies the different aspects of entrepreneurial learning and clearly indicates that the applied learning and teaching methods are dependent of the objects of learning in a given context, but nevertheless the methods should be grounded in the basic ideas of entrepreneurial pedagogy and learning.

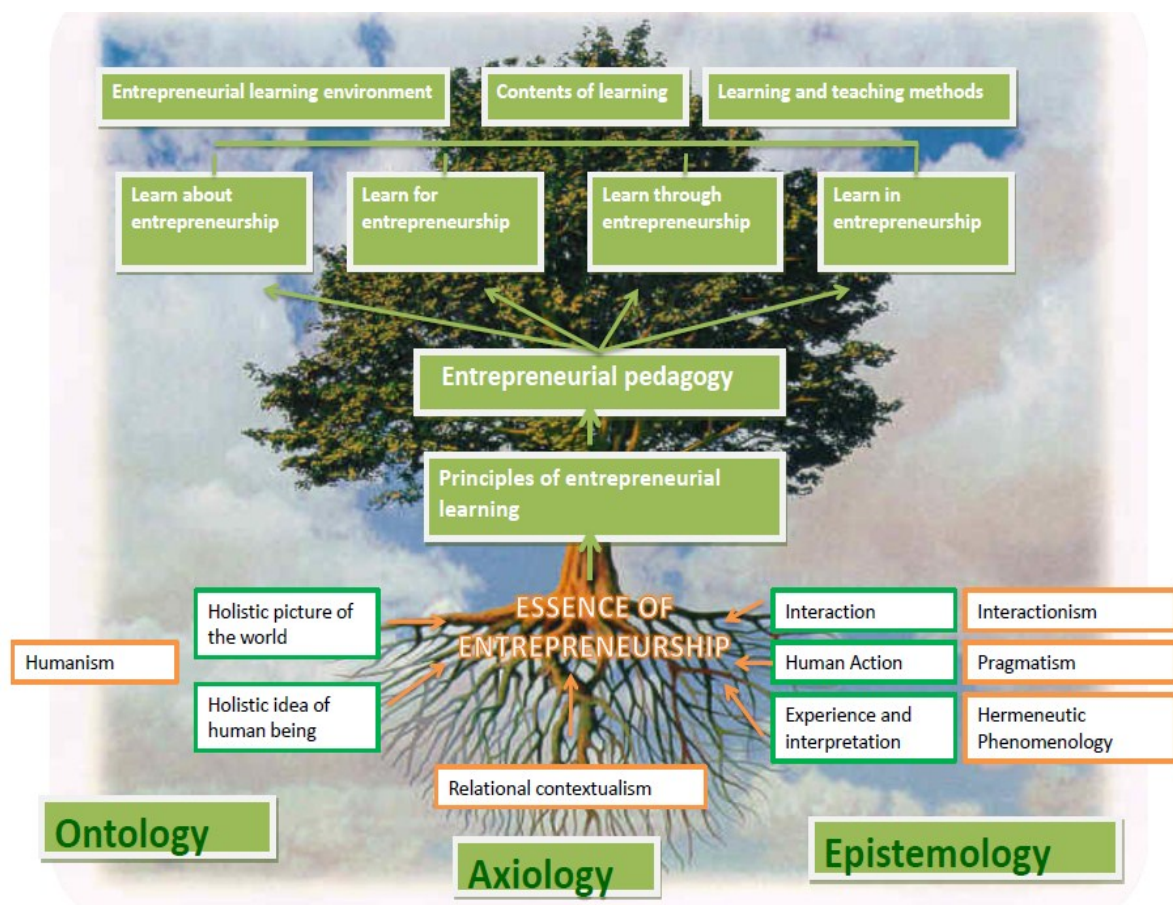


Figure 1: The levels of discussion of entrepreneurial learning

The essential features of entrepreneurship should be taken as a starting point when characterizing entrepreneurial learning processes. Unfortunately, explicit ontological, axiological and epistemological discussions are rare in scientific debate of entrepreneurship education (Kyrö 2006, 105-106).

Ontology of entrepreneurial pedagogy

Basically, ontology refers to the idea of reality. According to Kyrö (1997) the early contributors of the Enlightenment described an entrepreneur as a unique and free individual, who had the ability, will and the right to create his/her own place in society. Kyrö (1997) defines an entrepreneur not only as a human being who is unique and free but also as a risk taking, creative and responsible actor, who lives in a close relationship with his/her environment, culture and nature. The ontology of entrepreneurship is therefore based on a holistic idea of man, and a holistic idea of the world, in which an individual is seen as a functional and intentional entity. An individual is understood to be an emotional, volitional and cognitive creature able to affect his or her own life. (See e.g. Kyrö et.al 2008). These descriptions are important when we are trying to understand the essence of entrepreneurship, closely connected as it is to the philosophical roots of entrepreneurship. As Remes (2001) points out, these ideas of the world and human being are compatible with cross-disciplinary humanistic discussions. Hence, humanism might open new insights of the nature of relations and being in entrepreneurship.

Epistemology of entrepreneurial pedagogy Epistemology describes how knowledge has been derived. So, epistemology in entrepreneurship means that knowledge is born in and through action and interaction between individuals and their environment. In literature researchers have proposed that the epistemology of entrepreneurship is based on pragmatism, which in turn stems from empiricism and states that meaning is exclusively based on matters of experience and practice like usefulness and functionalism. Meanings are born from interpretations in different kind of contexts, which have a certain intention. Meanings are always changing in relation to action. (Niiniluoto, 2002.) Thus, knowledge is valuable if it useful and works in practice (e.g. Gibb 2001, 2005). Consequently, the roots of entrepreneurship are in pragmatism, because there is always a pragmatic purpose (Peirce, James, Dewey) in entrepreneurship. In Greek, *pragma* means action. The core element in entrepreneurship is action. This means that knowledge always needs a context to be created (e.g. Kyrö et al. 2008, 124).

However, knowledge is not created and constructed in isolation, but as Sørensen et al. (2007) present, entrepreneurial process is about interaction between individuals, social networks, structures and physical contexts. With this view Sørensen et al. (2007) link entrepreneurial processes with Symbolic Interactionism which is a sociological perspective, derived from the ideas of pragmatic philosophers, such as Peirce and Dewey and further developed by sociologists Blumer and Mead. This perspective emphasizes the relationship between human being and social structure. According to this view a social structure including institutions, moral codes and established ways of doing things which have influence on the acts of individuals. However, at the same through interaction between human beings the social norms and traditions are reproduced and changed (Blumer, 1986). Hence, as Sørensen et al. (2007, 97) argue *“reality is in a state of continuous change, because the actors constantly construct and re-construct their reality and thus either sustain, re-negotiate, or transform the meaning of those objects, which are part of their life”*. This means that the meanings given by individual human beings to various phenomena, issues and actions, for instance entrepreneurship, are socially constructed. However, as Blumer (1986) points out, meaning of things in human action is a result of a process of interpretation. Hence, human beings act and pursue towards things that they feel meaningful for them in a given context.

In the same vein Hermeneutic Phenomenology, derived from the ideas of Heidegger and Gadamer, seeks to understand individual experiences grounded in social and cultural context. According to this view the world can only be understood through human experiences. Hence, experiences form a basis for knowledge construction. However, like Symbolic Interactionism, also phenomenology is based on a basic premise that knowledge is not independent, but occurs in a given historical, cultural and social context. Correspondingly, acquiring knowledge through experiences leads knowing about something only when a human being sees it meaningful for himself. However, hermeneutic phenomenology also takes stand on the role of the “inner states” of a human being, which means that the meanings given by individuals to their lived experiences are unique. Hence, as Lavery (2003) argues, interpretation, which is critical in the phenomenological process

of understanding, is always an evolving process and therefore a definitive interpretation cannot be reached.

Taken together, derived from pragmatism, symbolic Interactionism and Hermeneutic Phenomenology we suggest that action, interaction and Interpretation of the subjective meanings given to human experiences might be essential features of entrepreneurial epistemology.

Axiology of entrepreneurial pedagogy

Axiology refers to values, which are related to both ontology and epistemology. In ontology it is a question of what we consider valuable in the world (*idea of world*) and in the existence of a human being (*idea of man*). In epistemology it is a question of knowledge what is considered in the world. The idea of man is connected tightly to the axiology of entrepreneurship, which values a human being as a free but responsible actor who lives in close relationship with the environment. Thus the axiology brings the ethical questions in scientific discourse closer. Axiology in entrepreneurship refers also to relational contextualism where the knowledge is valued its context (See Karvonen 1997). Axiology in entrepreneurship refers also to relational contextualism where the knowledge is valued its context. Karvonen (1997) highlights that relationalism means context situated knowledge. How competent the knowledge is depends on how it works in practise. Entrepreneurship research emphasizes contextualism and pragmatism.

Essence of Entrepreneurship

Gibb (2005a) suggests that the basis of entrepreneurial pedagogy has to be derived from the *essence of entrepreneurship* (Gibb 2005a). Rae and Carswell (2001) agree with Gibb (2005a) and point out that the core of human, social and behavioural activities is in entrepreneurship. Therefore the most important instruments in entrepreneurship are individuals themselves. Thus we have to understand what the essence of an entrepreneurship is and what kind of idea of man and idea of world the concept is based on.

The etymological background of the term entrepreneurship opens the view to entrepreneurial pedagogy. Kyrö (1997) points out that in French, entrepreneurship has meant doing, going forward and taking initiative. In English it has meant an exciting and unknown experience as well as taking on assignments (Kyrö 1997, Kyrö, Kauppi & Nurminen, 2008, 120).

In fact, entrepreneurial pedagogy should consist of processes which are crucial in the development of one's personality and professional growth (Kyrö 2005; See also Dienberg 2008, 3).

Gibb (2005b) suggests focusing upon the understanding and development of entrepreneurial behaviours, skills and attributes in different contexts (Gibb 2005b). Entrepreneurial action and behaviour are based on understanding the essence of entrepreneurship and the action and behaviour of an entrepreneur. On the one hand Shane and Venkatamaran (2000) argue that entrepreneurial action and behaviour mean recognizing and creating opportunities and exploiting them. Whereas for Gibb (2005a) the

core question is how to create understanding, of the *lifestyle* of the entrepreneur and what it means to live, day by day, with uncertainty and complexity. On the other hand the essence of entrepreneurship is therefore an ability to live in complexity and uncertainty, self-confidently, step by step, and not worrying about the forthcoming (Gibb 2001).

Entrepreneurial learning paradigm

Carrier (2005) emphasizes the need to change the teaching paradigms used in entrepreneurship education. Gibb (2001, 2005), however emphasizes that entrepreneurial pedagogy, learning and teaching are based on a specific *learning paradigm*. This learning paradigm is based on the essence of entrepreneurship and the philosophical commitments described above and theories of entrepreneurial action and behaviour (e.g. Kyrö 2001, 95; Kyrö, Kauppi & Nurminen 2008, 121; Shane & Venkatamaran 2000; Delmar 2005, 55).

According to Gibb (2005), the process of how to learn entrepreneurship has a different logic and a learning philosophy of its own based on pragmatism (Mead 1934, Dewey 1938). Gibb (2005) points out that entrepreneurial learning means learning through action. Learning is therefore not behaviouristic but rather experiential (Kolb 1984) or collaborative (Dewey 1938), or learning by doing (Dewey 1938). Experiential learning is a continuous process based on experiences, experiments, reflection and analysis. The process is cyclic, and a successful learning process constantly produces new knowledge to apply and new experiences to reflect on. Co-operation between an individual and the environment is crucial in experiential learning. Collaborative learning finds its roots in John Dewey's learning concepts. Collaborative learning is a concept of socio-cultural learning theories in which learning, knowledge and skills originate in real action and interaction between others. The community helps to interpret the world from various points of view. (Gibb 2005b; Kyrö 2005.) Fayolle (2007, 60) agrees with Gibb and Kyrö and emphasizes that the core pedagogy in entrepreneurship is *learning by doing*.

As has been pointed out, Kyrö (2005) argues that the core of entrepreneurial learning paradigm relates to the interplay between ontology, axiology and epistemology as here described. Firstly, the paradigm is related to the theoretical basis driven from the essence of entrepreneurship and entrepreneurial action and behaviour. (Kyrö 2005, 77.) Secondly, the entrepreneurial learning paradigm is based on these roots as well as the essence of entrepreneurship.

As Gibb (2001) has suggested, the essence of entrepreneurial learning and teaching lies in simulating the "way of life" of an SME entrepreneur. Hence, as Kyrö (2001) presents, although the forms of entrepreneurship, and thus also the meanings attached to it, are culturally and historically dependent, the following early characterizations of entrepreneurship could form the basis for entrepreneurial learning theory:

1. Life and knowledge is created through action, human being / learner is an actor.
2. Human beings /learners have holistic relationships with their environments.
3. Learners have holistic relationships with themselves and their action.
4. The human being / learner as an actor is:
 - a. unique

- b. free, creative, and capable of taking responsibility for his / her own actions and its consequences
- c. curious, creative and courageous (involving innovativeness and risk-taking)

Entrepreneurial learning paradigm differs from other learning paradigms as follows: Learning means ability to cope with uncertainty, courage to act and take risks, failing is acceptable and crucial part of learning, process is emphasized not only the outcomes, learning process is collaborative and student-centred, Learning takes place everywhere through action and entrepreneurial learning aims to renew the way of thinking and acting, not only constructing knowledge

These basic assumptions of entrepreneurial learning pose pedagogical challenges for teaching entrepreneurship or any other subject in entrepreneurial way. In the following section we discuss the pedagogical implications of these key elements by elaborating on the recent discussion on entrepreneurial pedagogy.

Entrepreneurial pedagogy

Defining the concept of pedagogy

Recently the interest towards entrepreneurial pedagogy has increased. However, as Pittaway and Cope (2007) explain this theme is studied embedded in a wider context of educational institutions and government policies on entrepreneurship education, as indicates. Hence, as Pittaway and Cope (2007) further argue, *“debates about appropriate pedagogy sit within the context of what entrepreneurship education is understood to ‘mean’ or what entrepreneurship education ‘is’ or what it is trying to ‘do.’*” On the other hand, another stream of research focuses on promoting one method or program. However, these studies generally lack to examine the applied methods holistically by recognizing links between a method and wider approach, or assess the outputs of these processes (Pittaway & Cope, 2007). Hence, it is hardly astonishing that so far there is no commonly accepted definition for entrepreneurial pedagogy. Consequently, more holistic conceptualizations focusing on what entrepreneurial pedagogy is and which fundamental underpinnings it stems from are needed.

One reason for this conceptual void might be that both entrepreneurship and pedagogy are disputable concepts *per se*. Therefore conceptualizations of entrepreneurial pedagogy should be start by elaborating on what we know about pedagogy in general.

A concept of pedagogy has originally referred to education of children, especially boys. However, over time the meanings given to a concept of pedagogy have changed and therefore this concept is today used in two broad meanings; it can either refer to scientific theory of education in general or assumptions of educational practices (Hirsjärvi, 1982; Siljander, 1988). Recently a concept of pedagogy is used to refer to the basic assumptions behind teaching as well as to teaching practices (Turunen, 1999). On the other hand, conceptual ambiguity is also resulted from the mixed use of the terms pedagogy and didactics. In Anglo-American approach a concept of pedagogy covers both terms, but in Continental approach the terms pedagogy and didactics are conventionally seen as separate concepts (Kyrö, 2005). Thus, in Continental

approach pedagogy refers to more general assumptions of learning taking into consideration the mission of education in society, while didactics refers to practical activity in a classroom. In other words, a concept of pedagogy is used to refer the learning aspect, whereas a concept of didactics entails the aspect of teaching.

We find this distinction between pedagogy and didactics partially troublesome, because in entrepreneurial learning process the aspects of learning and teaching are mutually reinforcing. The whole learning process is student-centered, which means that the actions taken by the students shape the actions of a teacher. On the other hand, the purpose of teaching is to enable and sustain entrepreneurial learning processes of the students. Hence, both aspects, learning and teaching, are intertwined, but in any case a learning perspective should have a leading role. However, as illustrated in our tree model, to our understanding pedagogy is not a synonym for teaching methods, but all entrepreneurial teaching methods should be based on entrepreneurial pedagogy. Hence, entrepreneurial pedagogy provides a general direction and the principles for choosing between various available methods, but the applied methods depend on the objects and context of learning. Thus each individual teacher should be aware of these guiding principles and then be able to choose how to put them into practice in a given situation and context.

Entrepreneurial pedagogy is based on the above mentioned key assumptions of entrepreneurial learning. Thus, entrepreneurial pedagogy seeks to sustain the entrepreneurial nature of a learning process by nurturing freedom, creativity, risk-taking and responsibility of the learners and emphasizes that learning takes place through action, experiences and social interaction. In the following we open up these essential features of entrepreneurial pedagogy.

The “science and art”

One core question in the debate concerning the appropriate methods for teaching entrepreneurship has been a relationship between theoretical and practical aspects. For instance Fiet (2000) stresses that teaching should strongly rely on theory of entrepreneurship, whereas Honig (2004) and Timmons and Spinelli (2004), among others, advocate more practical approaches.

Instead of debating whether to focus on theory or practical aspects, we suggest that both parts should be considered. Considering the epistemological premises of entrepreneurial learning the significance of practical knowledge should be emphasized. However, this does not exclude the role of theory. On the contrary, we support Fiet’s (2000) idea that theory should be an essential part of what we teach, but as entrepreneurship educators we should be able to link theory with practical implications. Hence, theories and functional knowledge should not be seen as an “end”, but as a “means”, as Lourenco and Jones (2006) argue.

Blenker et al. (2006, 27), based on the ideas of Cockx et al. (2000), use the metaphor “the art of entrepreneurship” to describe the relationship between theoretical knowledge and creativity, referring to an ability to apply knowledge. According to this view entrepreneurship may be based on theoretical knowledge, but *“the essence of the art form is the person’s ability to apply it creatively and with initiative in practice”*.

In similar vein Jack and Anderson (1999) have presented that entrepreneurship can be understood as an economic art form where the entrepreneur creates something new. They

propose that entrepreneurship education could be seen as a continuum of different roles and pedagogical techniques. According to this model students should first take a professional role and gain grounded theoretical understanding and then through technician and artisan roles, which involve application of knowledge and skills end up to the artist level, which focuses on enhancing creativity and interaction. Although this model considers the importance of gaining theoretical knowledge and skills and ability to apply them, it sees entrepreneurial learning in linear way where one stage leads to another. Furthermore, it relies heavily on business plan method in gaining theoretical knowledge and positions learning by doing in the latter stages. As we see it, in entrepreneurial learning process all of these roles should be nurtured simultaneously. In other words, students should be able to identify themselves with all the roles from the beginning of the learning process and thus theoretical knowledge and skills evolve continuously through action.

The difference between the aspects of art and science can also be understood by the learning taxonomy, originally constructed by Snow, Corno and Jackson (1996), but brought into entrepreneurship education research by Koironen and Ruohotie (2001). According to this taxonomy in entrepreneurial learning aside from cognitive aspects also conative and affective domains of learning should be emphasized. In the same vein Kyrö (2008) emphasizes the role of affective knowledge and points out that in this respect we should learn from Dewey's pragmatism which regards emotions as an essential factor in learning (See also Pittaway & Cope 2007). Gartner (2008) has come to same idea by saying that in *entrepreneurship it is not only about organization but a better start might be through the heart: humanities and art because entrepreneurship is as large as the people in it*. Thus, entrepreneurial pedagogy should consist of processes which are crucial in the development of one's personality and professional growth (Kyrö 2005; see also Dienberg 2008, 3).

Leaning on these ideas and the essence of entrepreneurship we suggest that in entrepreneurial pedagogy both aspects, *science*, referring to theoretical knowledge and *art*, referring to a willingness and an ability to apply it, should be considered and the emphasis between them depends on the context, content, and objects of learning.

According to Berliner (1986) "*effective teaching is a dynamic mixture of expertise in a vast array of instructional strategies combined with a profound understanding of the individual students in class and their needs at particular points in time*". Owing to this dual nature Berliner (1986) defined pedagogy as "the art and science" of teaching. Interestingly also Brockhaus (1994) has compared teaching entrepreneurship to teaching someone to become an artist by claiming that we cannot make a person another Van Gogh or Branson, but by entrepreneurship education the skills and creativity needed in those positions can be enhanced. In similar vein Gibb (1993, 1996) makes a distinction between providing knowledge and skills for entrepreneurship and the "the art" of entrepreneurial practice.

As discussed here earlier simulating entrepreneur's way of life is essential in entrepreneurial learning as it acts as a springboard to learning entrepreneurial mindset and behavior. Hence, a strong emphasize should be put on *how* to teach. Thus as entrepreneurship educators along with *the art and science of entrepreneurship*, we should also consider *the art and science of teaching entrepreneurship*.

The role of action and experiences

Entrepreneurial learning is oriented towards “doing” more than “thinking” and in a pedagogical sense this orientation poses challenges when conducting entrepreneurship education programmes because it involves more complexity than traditional teaching (Hynes & Richardson, 2007). However, for long business plans along with case studies and guest speakers have had a dominant role in teaching entrepreneurship (Plumly et al., 2008), although recently particularly the dominance of business plans has faced much criticism (e.g. Carrier, 2005; Honig, 2004; Krüger, 2007; Timmons & Spinelli, 2004). The main reason for criticism is that this approach is teacher-centered and focuses on fulfilling a relatively well-structured task and answer-finding instead of nurturing action and becoming entrepreneurial (Krüger, 2007). As Gibb (2005) argues, such teaching methods are not based on pedagogy which enhances entrepreneurial behavior. Gibb (2005) further stresses that *“exposure to experience is an essential component of being able to ‘feel’ what it is like to be entrepreneurial”*.

In the same vein several other scholars (e.g. Carrier, 2006; Kjellman & Ehrsten, 2005; Edelman et al., 2008; Rae and Carswell; 2001) have risen up the importance of action oriented and experiential learning. Minniti and Bygrave (2001) specify the experiential nature of entrepreneurial learning by pointing out that even though specific knowledge about industry, technology, products and markets may be acquired indirectly for example by hiring people, in most cases this kind of knowledge is acquired through direct experiences and learning from prior or future successes or failures. Furthermore, as Minniti and Bygrave (2001) continue, knowledge about “how to be entrepreneurial” can be acquired only through learning by doing or by direct observation (Minniti and Bygrave, 2001).

According to many previous researches experiential learning originates conceptually in Kolb’s (1984) model (Wing Yan Man, 2006). However, as Kolb (1984) points out, the ideas of experiential learning are based in the works of John Dewey, Kurt Lewin and Jean Piaget. Thus, experiential learning integrates Dewey’s idea of learning-by-doing, Lewin’s thoughts of the importance of here-and-now concrete experiences and Piaget’s view on experience, reflection and action as a continuing circle. As Kolb (1984, 41) further specifies, the aim of experiential learning theory is not to substitute behavioral and cognitive learning theories, but to offer *“a holistic and integrative perspective on learning that combines experience, perception, cognition and behavior”*.

Furthermore, as Collins et al. (2006) and Wing Yan Man (2006) stress, instead of only repeating what have been effectively done in the past, experiential entrepreneurial learning requires that a learner actively seeks for new learning opportunities and reflects upon the gained experiences.

From teacher-centred to student-centred learning

Entrepreneurship education seeks to promote the idea of freedom by empowering learners to take responsibility for their own learning. Hence, as Jones and Iredale (2010, 13) put it *“the emphasis on pedagogy is on the freedom of the individual to change, grow, act on and adapt to opportunities, circumstances and contexts”*. Thus, entrepreneurship educators should also be

open-minded and allow the students to take a stronger role in the learning process. Therefore, it is essential that the teacher does not give ready-made solutions to the students, but encourages the students to construct the knowledge through interaction with each other. Hence, entrepreneurial teaching requires different skills than traditional class-room teaching (Leskinen, 1999). In entrepreneurial teaching the guiding of the learning processes and timing of the interventions become crucial. Consequently, such a method requires strong analytical and interpersonal skills from a teacher. Respecting the freedom of the learner requires that the teacher accepts the diminishing of his/her authority status to some degree and is able to withstand his/her own feelings of insecurity in a new situation. This requires that a teacher is able to control his/her own feelings in order to be able to guide the learners. (Kyrö 2005, Leskinen 1999.)

A teacher should also accept that the students have a freedom to set their own goals for learning. However, as Grüner and Neuberger (2006) specify, this does not mean that all wishes coming from students should be taken without question. Although this “hedonistic approach”, as Grüner and Neuberger (2006) call it, might be appreciated by learners, a teacher has a responsibility to ensure that the general objectives of the course are not fully neglected.

However, when learning through trial and error, there is always the possibility that the learning process might not lead to an intended outcome. When that occurs, it should not be seen as a failure but merely as a valuable learning experience and opportunity to reflect what worked well and what could have been done differently (Shepherd, 2004). As Shepherd (2004) points out, entrepreneurial pedagogy needs to consider how to teach new theories on emotions and learning from failure. Thus he proposes that failed learning projects can be used as a means to discuss the negative emotions attached to entrepreneurship and learn the ways to manage those emotions.

Creativity and risk-taking

Entrepreneurship and innovation are closely intertwined (Harkema & Schout, 2008). This connection has been clearly highlighted already in Schumpeterian ideas of entrepreneurship. However, as Drucker (1985) specified, both innovation and entrepreneurship demand creativity. Creativity in entrepreneurship can be conceptualized in many ways. Zampetakis and Moustakis (2006) links entrepreneurial creativity and intention by proposing that entrepreneurial intention could be increased through development of creative thinking. On the other hand, a recent study of Hansen et al. (2011) links creativity to opportunity identification and by stressing a significance of this relationship and a process nature of creativity uses a definition of opportunity creating which refers to a creative process of generating new alternatives.

In the same vein Okpara (2007) sees entrepreneurial creativity as a process and extends its meaning by defining creativity as *“an ability to make or otherwise bring into existences something new, whether a new solution to a problem, a new method or device, or a new artistic object or form. Creativity is also an attitude, the ability to accept change and newness, a willingness to play with ideas and possibilities”*. An aspect of newness has also been supported by Rabbior (1990), who already two decades suggested some criteria for effective entrepreneurship education program. According to him, entrepreneurship education should challenge the status quo in terms of shifting the focus away from right-and single answer

learning to seeking for new perspectives and possibilities. Additionally, as Rabbior (1990) presented, instead of nurturing comfort and stability entrepreneurial learning should expose students to variety and change and have elements that expose students to unfamiliar, surprising or unexpected, because that is the way to foster creativity.

Along with creativity an ability to take risks is seen as one of the key features of entrepreneurship. Thus, as Kyrö (2005) emphasizes risk-taking is an essential part of entrepreneurial learning and teaching. As Kyrö and Ripatti (2006) point out, in the field of economics risk is commonly understood as financial risk. Leaning on this view for instance Casson (1990) defines entrepreneurial risk as *“the result of insecurity that exists due to the fact that the success of market penetration can never really be determined beforehand”*. However, as Kyrö (2005) points out, a concept of risk should be seen in a broader sense than insecurity. If risk is only seen as an uncertainty of the forthcoming and as a lack of information, it would mean risk-taking relates only to cognitive approach of learning and thus risk could be diminished by acquiring more knowledge. Instead, as Kyrö (2005) argues, risk should foremost be seen as insecurity, which refers to a person’s ability to face unknown and complex situations. Thus, risk taking refers also to psychological and social risk and is applicable in various contexts. Considering that the aim of entrepreneurship education is to *“living with, dealing with, creating and enjoying uncertainty and complexity”*, as Gibb (2002) puts it, risk-taking in a broad sense, should be essential part of entrepreneurial pedagogy as well.

Collaboration and team learning

Jones and Iredale (2010) bring up that in entrepreneurship education is vital to apply such pedagogy which aside from learning by doing and asking questions also encourages participation. However, as Verzat et al. (2009) bring up, in contemporary education the focus is rather on individual than team-based work. On the other hand, collaboration and individual learning are not necessarily mutually exclusive. As Kyrö (2008) points out, entrepreneurial teaching should support collaborative learning, but simultaneously consider individual differences.

Team learning could provide many benefits for learning. For instance Van den Bossche et al. (2006) stress the importance of the use of teams in promoting student learning and argue that team based learning enables sharing of different experiences, values and knowledge and thus learning from each other. On the other hand, Scott-Ladd and Chan (2009) bring up that team-based learning encourages students to take more responsibility of their own learning and enhances their team work skills. Furthermore, it is suggested that teams are more effective in problem solving than individuals (Van den Bossche et al, .2006) and that people are more willing to take risks in team context than on their own (Atkinson et al., 2000).

Promoting teams is not just an educational phenomenon, but also in today’s organizations a great deal of tasks are performed by teams (Verzat et al., 2008). It is also suggested that in SME context entrepreneurial teams are more common than previously believed (Huovinen & Pasanen, 2010) and have a positive impact on organizational effectiveness and firm performance (Lechler, 2001). Team entrepreneurship has raised increasing interest also in entrepreneurship research (Harper, 2008).

As Verzat et al. (2008) point out, ability to collaborate is one of core competences required from the students when entering into work life and therefore more emphasis should be put on this aspect also during the studies, as otherwise there is an imbalance between work life demands and education. Hence, keeping in mind that the aim of entrepreneurship education is to enhance entrepreneurial mindset and behavior, involving ability to do team work and considering that collaboration is also one of the fundamental underpinning assumptions behind entrepreneurial learning, collaboration and team learning are clearly issues that should take into consideration in entrepreneurial pedagogy.

Attachment to social environment

According to Kyrö (2001) entrepreneurial learning is a multifaceted process which takes place, consciously and unconsciously, everywhere. This notion reflects the basic premises how an enterprising human being perceives world. Hence, it is suggested that enterprising behavior requires openness to the “real world” (Blenker et al. 2006) and thus entrepreneurship education needs to reflect the “real-world” environment (Green, Katz & Johannisson, 2004). In similar vein Gibb (2002) highlights the need to create such a learning environment “*where participants can learn to learn in the way which will be demanded of them in entrepreneurial circumstances*”. On the other hand Harkema and Schout (2008) suggest for breaking away from “*the safe haven of school-setting*” and advocate direct confronting with the external world. These requirements extend learning from school premises to stakeholder environment and thus networking becomes a crucial element in entrepreneurial learning.

Summary

Taken together, based on the previously discussed characterizations of the entrepreneurial learning and its underlying philosophical commitments, it can be said that entrepreneurial pedagogy is a perspective to learning and teaching which is grounded in the essence and a holistic view of entrepreneurship and human being. Hence, entrepreneurial pedagogy means adopting such educational and teaching practices in which learners are seen as self-regulating, active, creative and responsible actors, who set their own goals for learning as well as make their own decisions on how to reach these goals. According to entrepreneurial pedagogy learning is seen as an individual and collective process where knowledge, involving cognitive, conative and affective aspects, is constructed constantly by doing, experiencing and participating and interacting with external environment.

The basic guiding lines of entrepreneurial pedagogy can be defined in the following way:

1. Student-centred learning: Entrepreneurial teaching aims to support and foster students’ entrepreneurial learning processes.
2. Learning by doing and experiencing: Entrepreneurial teaching supports action-based experiential and holistic learning.
3. Creativity and risk-taking: Entrepreneurial teaching nurtures freedom and creativity and encourages students to take responsibility of their own learning and to take risks and learning from failures.
4. Collaboration and team learning: Entrepreneurial teaching encourages learning in teams and support team processes and dynamics
5. “Science & art”: Entrepreneurial teaching seeks to foster cognitive, conative and affective domains of learning

6. Attachment to social environment: Entrepreneurial teaching acknowledges the importance of "real world" learning environment and networking.



Figure 2: The pillars of entrepreneurial pedagogy

Qualitative Case study

In this chapter we describe how we have applied the principles of entrepreneurial pedagogy when teaching entrepreneurial behaviour in two distinct educational arena and program. The aim of this qualitative case study is to illustrate two separate pedagogical applications and to evaluate them in terms of how they follow the basic principles of entrepreneurial pedagogy.

Both of these cases have been developed independently by the authors. However, the starting point for developing these two pedagogical applications has been that although entrepreneurial learning and teaching have become more relevant issues in the field of entrepreneurship education research, there are still many unanswered questions when it comes to the mechanisms of entrepreneurial learning processes (see e.g. Kyrö & Carrier 2005, 16). Entrepreneurial learning process is methodologically a problematic research area owing to its complex nature. Thus, it is suggested that perhaps an explorative and authentic research approach might provide new insights on this area. Hence, development of each of these pedagogical applications has been an iterative and cyclical research process starting from preliminary understanding about entrepreneurial learning with confusion on how to apply this knowledge on developing own teaching practices proceeding to action and continuous reflection on action. Reflection, in turn, have increased theoretical understanding based on empirical findings and provided new insights of how to develop the course program and teaching practices .

Case 1: Exploring Entrepreneurial Lifestyle

An entrepreneurial pedagogical application *Exploring Entrepreneurial Lifestyle* based on the principles of entrepreneurial pedagogy (Kyrö & al 2008) conducted by Hägg (2010) during the spring 2010 in upper secondary school level in Helsinki Etu-Töölö.

The upper secondary school Etu-Töölö/(TYLY) has 600 students. TYLY offers to students opportunities to learn about entrepreneurship and different cultures. At TYLY an active role of a student is emphasized. The students learn by searching answers to the questions what, where, how and why. Thus problem based learning method is used at TYLY.

Exploring Entrepreneurial Lifestyle course was addressed 1th - 4th year students at TYLY. The students were 16-18 years old and this course was their first course in entrepreneurship. The course consisted 38 lecture hours plus 16 hours distance studies.

The course aimed to foster:

- practical skills needed in study- and working-life
- active and initiative way of working
- entrepreneurial way of thinking and acting
- business knowledge and skills

In this TYLY- case creating an entrepreneurial space was a challenge for entrepreneurial pedagogy. Gibb (2005a) emphasizes that it is important to create space for learning by doing and re-doing, and learning projects need to stimulate entrepreneurial behaviour. Most importantly, teachers should be able to provide a pedagogical environment in which students can learn new ways of doing, feeling, seeing and communicating, and new ways of organizing and learning things. (Kyrö & Carrier 2005, 25; Gibb 2005, 49-50.) According to Kyrö et.al (2008), a unique individual's free, holistic and collaborative action is the basis of building a *learning environment*. Moreover, an entrepreneurial learning environment should be able to offer a good collaboration with other learners. Through this collaboration it is possible to create a new reality and new meanings with other actors by identifying opportunities and exploiting them. (Kyrö, Kauppi and Nurminen 2008, 121.) Thus the learning environment is not only physical but also a psychological and social learning arena.

In this TYLY –case creating entrepreneurial learning environment was the key point. It meant going outside, leaving the classrooms and going into the real enterprises. The themes were such as market-communication, marketing and selling, financing, production, negotiating and networking. The course assignments were evaluated by entrepreneurs and peer group.

The outcomes were positive as the following authentic speech describes:

- *"My understanding about entrepreneurship changed totally. I understood first time in my life what is entrepreneurship. This course was not just playing entrepreneurship but concrete and learnable, real life."*
- *"I learned how to contact people and what kind of selling methods work like smile and joyful attitude. I learned to value more the selling people."*
- *"The receipts should be more than costs."*
- *"It is easier to approach entrepreneurship together with peers."*

- *“Teaching entrepreneurship should be like this: you can see by yourself how the things are done in real life.”*

Case 2: VIRE-method

Considering the recent substantial changes in Fashion industry and consequently the need to response to the changed demands of working life The Department of Textile and Clothing Technology in the Faculty of Technology in Lahti University of Applied Sciences has applied entrepreneurial pedagogy in teaching clothing design, marketing and business management courses as a part of Bachelor’s Degree studies in textile and clothing engineering since February 2007. An entrepreneurial pedagogical application called *VIRE (Virtual Entrepreneurship)* (Peltonen 2008; Peltonen & Parikka, 2010) was initiated aiming to

- Open up the holistic nature of entrepreneurship
- Emphasize the significance of individual and collective competencies in entrepreneurship.
- Foster positive attitudes towards entrepreneurship among students
- Enhance students’ entrepreneurial mindset and behavior
- Foster students’ professional growth through reflective action learning
- Simulate entrepreneurship in textile and clothing industry in a safe and inspiring learning environment
- Forster networking with existing clothing and textile companies as well as enhance international co-operation
- Enhance the development of students’ entrepreneurial intentions

The VIRE-method is addressed to the 3rd year-students, who already have gained the basic knowledge of textile and clothing materials and production and entrepreneurship. The integrated course program equals 9 ECTS and takes about 13 weeks.

The main challenge of conducting entrepreneurial learning and teaching in textile and clothing engineering studies were to create such a learning environment which simulates the entrepreneurship in textile and clothing industry and fosters collaborative learning by doing, but at the same time considers students’ individual learning needs. VIRE-method applies Practice Firm Training (PFT) as learning and teaching method. PFT (also called practice enterprise, virtual enterprise or training firm), originated in Germany in the 1950s, is a simulated learning environment where participants operate in a fictitious enterprise with virtual goods and funds silhouetting a “real” enterprise’s business procedures by conducting business with other Practice Firms in the worldwide virtual learning environment. In Finland the idea of practice firm studies was launched in the 1990s by the Finnish national enterprise network, FINPEC, which hosts the national virtual network. At present the Finnish network consists of over 80 practice enterprises from over 20 vocational schools and universities of applied sciences. Furthermore, a worldwide practice enterprise network, EUROPEN, enables networking with several thousand other practice firms in over 40 countries.

PFT has mainly been applied in business studies focusing on enhancing general skills and knowledge needed in business operations. However, VIRE-method differs from a “traditional” PF training as it takes stand on the distinct features of textile and clothing entrepreneurship

and emphasizes the role of individual entrepreneurship and intrapreneurship as a basis of external entrepreneurship. Hence, through VIRE-method students can learn to acknowledge their own strengths and interests and thus the method helps them to plan their individual career paths, but at the same time through learning by doing, VIRE-method emphasizes team learning and networking. It is also noteworthy that the request for individual development and collaboration is not limited on students, but the same applies for the course instructors and tutors as well.

Having introduced the basis of these two cases, we continue by evaluating how the essential features of entrepreneurial pedagogy are realized in these pedagogical applications. The aim here is not to compare these pedagogical applications with each other, but to demonstrate that the basic premises of entrepreneurial pedagogy can form basis for structurally and time-wise very different pedagogical applications.

	<i>Exploring Entrepreneurial Lifestyle</i>	<i>VIRE-method</i>
Science & art	The method supports students to gain knowledge about entrepreneurship, both theoretical and practical knowledge taught by entrepreneurs. The entrepreneurs were experts in substance as well as entrepreneurship. Very little of theoretical knowledge was taught by teachers.	The method helps students to gain the basic knowledge about entrepreneurship in textile and clothing business, i.e. it develops their understanding about textile and clothing business in general, but also gives them opportunities and freedom to apply knowledge in concrete learning situations. Theoretical knowledge of fashion design, marketing and business start-up and management is integrated in learning-by-doing in the form of theoretical "short-notes" related to ongoing working activities.
The role of action and experiences	Learning assignments were given by entrepreneurs not teachers. Thus it meant learning by real-life cases. In the same time the students got familiar with different kind of entrepreneurs and enterprises. The students were curious and motivated to learn by doing.	Learning from action and experiences and reflection has a central role in VIRE-method. Students work in a Practice Firm usually one day (7-8 hours) in a week for total 13 weeks. During that time they set up and manage a virtual clothing company, design a fashion collection for an oncoming season and plan the marketing acts for the collection. At the beginning of the process students apply for different positions in a virtual company one of the students being selected as a managing director of a virtual company. Owing to a job rotation students have an opportunity to change positions two-three times during the program.

Student-centered learning	Learning was student-centered. Actually it was a challenge to keep the teachers “outside”.	The learning process is conducted on the basis of students’ choices and decisions. This means that students are responsible for setting up and managing a virtual company, as well as for all the decisions related to designing and marketing of a clothing collection. Thus the role of teachers is to tutor a learning process, give instructions and intervene if needed.
Team learning	The students learned to work in teams although they didn’t know each others beforehand. They learned to deal their ideas, knowledge and skills to peers.	Students work in teams of 3-5 people. Each team member is responsible for given tasks. Teams also have to work together to make sure that the overall goals of a virtual company are achieved and that all the operations within a company are running smoothly. Hence, the learning process enhances the development of students’ interpersonal skills and encourages the students to learn with and from each other
Creativity and risk taking	Step by step the students encouraged also to cope with uncertainty and insecurity and to make decisions, take risks and to tolerate failing.	Learning from the achievements and possible mistakes during the learning process is crucial in this method. For instance, during a learning process students present the sketches of the clothing collections for invited guests representing the desired customer segments or seek feedback for the collections from the representatives of the dealers selling similar garments.
Attachment to social environment	Collaboration with the real entrepreneurs and their enterprises was the most appreciated issue by students.	A “real-world parent-company”, in other words an existing clothing company acts as a model and instructor for a virtual company. Collaboration with this parent-company and networking through FINPEC and EUROPEN broadens learning outside school premises and enable students to form contacts with other stakeholders.

Taken together, the fundamentals of entrepreneurial pedagogy are clearly recognizable in both of these pedagogical applications, although the learning methods differ from each other and are addressed to different levels of school. With these cases we aim to illustrate that there are distinct ways to learning and teaching entrepreneurship and entrepreneurial behavior. As discussed here earlier entrepreneurial learning is context-specific and thus the content issues, the aims of learning and the applied learning and teaching methods vary according to educational level, field

of education and group of students. Nevertheless, when aiming to foster entrepreneurial mindset and behavior, the basic premises of entrepreneurial pedagogy could offer some guidelines when planning, conducting and evaluating entrepreneurial learning interventions.

Conclusions, practical implications and future avenues

We assume that the principles of entrepreneurial learning suggested by Kyrö (2001) are the cornerstones of entrepreneurial pedagogy. However, these ideas have not been very well understood by researchers in entrepreneurship education as we have described above. With this paper we aim to narrow this gap and encourage future discussion on this topic. This paper does not seek to offer a definite conceptualization of entrepreneurial learning or pedagogy, but aspire to deepen understanding of these issues. The concept of entrepreneurial pedagogy is still not unquestionably defined here and perhaps, after all, we should not determine the practices of entrepreneurial pedagogy too strictly because it would be against the essence of entrepreneurship and its philosophical roots. Nevertheless, we have to value the freedom and responsibility of human being. Equally we have to keep in mind the context and the aims of the students. Whatever we do it is important that the principles of entrepreneurship are well understood, and that we develop our practices by applying the results of recent research on entrepreneurship education. These principles also concerns teachers, trainers and facilitators, who are applying entrepreneurial pedagogy in their own way. The conceptual models proposed in this paper might perhaps offer some guidelines for educators and trainers when planning future entrepreneurial training programmes. It would also be fruitful to apply the “pillars of entrepreneurial pedagogy” in evaluating other cases as well.

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